



RAW SEQUENCE LISTING

DATE: 02/24/2003

PATENT APPLICATION: US/09/690,885

TIME: 08:10:04

Input Set : A:\1422-319 Parent SL.txt

Output Set: N:\CRF4\02242003\I690885.raw

SEQUENCE LISTING

4 (1) GENERAL INFORMATION:

6 (i) APPLICANT: SAKAWA, HIROAKI

7 USENO, HARUMI

8 OCHIMA, ATSUSHI

9 FADO, IKUNOSHIN

11 (ii) TITLE OF INVENTION: PLASMID

13 (iii) NUMBER OF SEQUENCES: 1

15 (iv) CORRESPONDENCE ADDRESS:

16 (A) ADDRESSEE: FIRCH, STEWART, KOLASCH & BIRCH, LLP

17 (B) STREET: PO BOX 347

18 (C) CITY: FALLS CHURCH

19 (D) STATE: VA

20 (E) COUNTRY: USA

21 (F) TEL: 703-771-1547

23 (v) COMPUTER READABLE FORM:

24 (A) MEDIUM TYPE: Floppy disk

25 (B) CHARACTER: IBM PC compatible

26 (C) OPERATING SYSTEM: PC-DOS/MS-DOS

27 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30

29 (vi) CURRENT APPLICATION DATA:

C--> 30 (A) APPLICATION NUMBER: US/09/690,885

C--> 31 (B) FILING DATE: 18-Oct-2000

32 (C) CLASSIFICATION:

34 (viii) ATTORNEY/AGENT INFORMATION:

35 (A) NAME: WEINER, MARGO S.

36 (B) REGISTRATION NUMBER: 32,181

37 (C) REFERENCE DOCKET NUMBER: 1422-0319P

39 (ix) TELECOMMUNICATION INFORMATION:

40 (A) TELEPHONE: 703-771-1000

41 (B) TELEFAX: 703-771-9010

43 (2) INFORMATION FOR SEQ ID NO: 1:

44 (i) SEQUENCE CHARACTERISTICS:

45 (A) LENGTH: 115 amino acids

46 (B) TYPE: amino acid

47 (C) STRANDEDNESS: single

48 (D) TOPOLOGY: linear

50 (ii) MOLECULE TYPE: protein

52 (ix) FEATURE:

53 (A) NAME: FEY: Modified-site

54 (B) LOCATION: 2

55 (D) OTHER INFORMATION: /note= "2-Val or Leu"

61 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

ENTERED

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W--> 63      Met Xaa Pro Leu Asp Lys Asp Leu Gln Lys Ala Lys Ile Ser Ile Thr
64          1          5          15          15
66      Asp Phe Phe Glu Ile Thr Asn Arg Val Leu Asp Tyr Phe Pro Asn Val
67          20          25          30
69      Ile Asn Asn Thr Val Glu Lys Gly Asp Tyr Leu Ile Ser Ser Ser Asn
70          35          40          45
72      Ile Ala Gly Thr Ile Lys Phe Leu Arg Pro Ile Asn Arg Lys Leu Phe
73          50          55          60
75      Ile Gln Glu Lys Lys Val Phe Asn Asp Tyr Phe Gln Lys Leu Ile Ile
76          65          70          75          80
78      Val Phe Glu Asn Ile Arg Asn Lys Lys Thr Val Thr Glu Glu Asp Lys
79          85          90          95
81      Ile Ile Ile Asp Arg Val Ile Tyr Thr Ile Gln Glu Ser Ile Gly Ile
82          100          105          110
84      Gly Leu Asp Ile Met Val Asn Gln Asn Ser Ala Arg Lys His Val Gly
85          115          120          125
87      Asn Arg Phe Glu Glu Leu Ile Arg Val Ile Phe Thr Glu Ile Ser Val
88          130          135          140
90      Ser Asn Lys Arg Thr Val Leu Gln Ile Pro Tyr Glu Thr Asp Glu Gly
91          145          150          155          160
93      Gln Lys Ile Tyr Lys Cys Glu Asn Asp Leu Ile Ile Ser Pro Phe Glu
94          165          170          175
96      Asn Val Glu Ser Thr Asn Lys His Leu Asp Glu Asn Glu Ile Val Val
97          180          185          190
99      Ser Ile Lys Thr Thr Ser Lys Arg Arg Met Gly Lys Met Phe Ile Asp
100          195          200          205
102      Lys Ile Leu Leu Glu Arg Phe Val Lys His Pro Gln Lys Val Ile Gly
103          210          215          220
105      Ile Phe Leu Asn Asp Val Gln Arg Lys Glu Asp Asn Asn Ile Ser Phe
106          225          230          235          240
108      Thr Leu Val Ser Gly Leu Phe Met Val Tyr Thr Lys Phe Leu Thr Thr
109          245          250          255
111      Leu Ala Gly Ile Tyr Tyr Leu Asp Pro Pro Pro Asn Ala Leu Lys Leu
112          260          265          270
114      Pro Tyr Ser Asn His Met Lys Arg Phe Ser Asp Leu Ile Thr Glu Asp
115          275          280          285
117      Leu Glu Lys Leu Phe Ser Ser
118          290          295
119 (2) INFORMATION FOR SEQ ID NO: 1:
120 (i) SEQUENCE CHARACTERISTICS:
121 (A) LENGTH: 885 base pairs
122 (B) TYPE: nucleic acid
123 (C) STRANDEDNESS: double
124 (D) TOPOLOGY: linear
125 (ii) MOLECULE TYPE: DNA (genomic)
126 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
127 185 ATGGAACAC TGGATAAGA TTTACAAAA GCAAAGATT CAATTACTGA TTTTTTCGAA 60
128 187 ATTACAAATA GAGTTTATA TATTTCGCC AATGTAATCA ATAATACAGT TGAAAAAGGA 120
129 189 GATTATTTAA TATCTCATC AAATATTGCT GGAACAATAA AATTCCTAAG ACCAATCAAT 180

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141 AGAAAGTTAT TTATTCAGCA AAAAAAGTT TTCAATGATT ATTTTCAAAA ACTGATTATA 240
143 GTTTTTTAAA ATATAAGGAA CAAAAAGACT GTAAATAGAG AAGATAAAAT TATTATTGAT 300
145 AGGGTAAATT ACACAATACA GCAATCTATT GGAATTGGTT TAGATTTAAT GGTTAATCAA 360
147 AATAGTCTCA GAAAGAAAGT TGGTAAAGGA TTGAAAGAA TAATTAGAGT CATTTTTACA 420
149 GAAATATACG TATCGAATAA AAGAAATGTA TTACAAATTC CATATGAAAC TGATGAAGGA 480
151 CAGAAAATTT ACAGATGAGA GAATGAGGTC ATTATTGCTC CTTTGTGAAA TGTAAGATCT 540
153 AAAAAAAGC ATCAAGATCA AATCAATATT GTTCTTTCAC TAAAGACAAC ATCAAAAGAT 600
155 AAGATGGGAA AATCTTTTAT AGATAAAATT TTACTTGAAG GGTTTGTAA ACACCTCTCA 660
157 AAAGTATAGG GAATTTTCTT GAATGATGTA CAAAGAAAAG AAGACAACAA TATCAGCTTT 720
159 AACTTGTGTT CAGACTTATT TACGATGAT ACTAAATCT TAACTACTCT TGAAGGGATC 780
161 TATTATTAGG ATCAAGATCA TAATGATGTT AAGTATCAT ATTCTAATCA TATGAAAGA 840
163 TTTCAGATT TACTTACAGA AGAGCTGAG AAATATTCT CCTCT

```

164 (2) INFORMATION FOR SEQ ID NO: 3:

165 (i) SEQUENCE CHARACTERISTICS:

166 (A) LENGTH: 115 base pairs

167 (B) TYPE: nucleic acid

168 (C) STRANDEDNESS: single

169 (D) TOPOLOGY: linear

170 (ii) MOLECULE TYPE: other nucleic acid

171 (A) DESCRIPTION: desc = "synthetic DNA"

172 (iii) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

```

173 TAGGATATG TCAATAGCA GCAATGAGC CAGATAGATC PTTGGTTGTG AATCSCAACC 60
175 AGTGGGCTTA TGGAGAGAG CCAATGATC CTACCATCCC TAATGACCTG CAGGCATGCA 120
177 AGCTTGCTTC CCGGAGGTC AATGATGAG GCAGGTGTGC TCGAGGCGAA GGAGTGCCTG 180
179 CATGCTTTC TCTTGGCTT CTTCCTGTC GACAA 215

```

180 (2) INFORMATION FOR SEQ ID NO: 4:

181 (i) SEQUENCE CHARACTERISTICS:

182 (A) LENGTH: 111 base pairs

183 (B) TYPE: nucleic acid

184 (C) STRANDEDNESS: single

185 (D) TOPOLOGY: linear

186 (ii) MOLECULE TYPE: other nucleic acid

187 (A) DESCRIPTION: desc = "synthetic DNA"

188 (iii) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

```

189 TATGTCCAG AGCAAAAAAG CCAAGAGGAA ACGCATGCAG GCACTCCTTC GCCTCGAGCA 60
191 CACCTGGCGT AACTAATGAG CTGCAAGCAT GCAAGCTTGC ATGCCTGCAG GTCATTAGGG 120
193 ATGGTAGGAG ATGCGCTCT CTTCGATGTA GGCCTACTGT TGGGATTAC AACCAAGAT 180
195 CTATCTGCTT ACATCTCTCT TTATGACAT ATCCA 215

```

196 (2) INFORMATION FOR SEQ ID NO: 5:

197 (i) SEQUENCE CHARACTERISTICS:

198 (A) LENGTH: 18 base pairs

199 (B) TYPE: nucleic acid

200 (C) STRANDEDNESS: single

201 (D) TOPOLOGY: linear

202 (ii) MOLECULE TYPE: other nucleic acid

203 (A) DESCRIPTION: desc = "synthetic DNA"

204 (iii) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

205 AGATCTAGAG CAAACAAAA AACCAAG 28

206 (2) INFORMATION FOR SEQ ID NO: 6:

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133 (i) SEQUENCE CHARACTERISTICS:
134 (A) LENGTH: 14 base pairs
135 (B) TYPE: nucleic acid
136 (C) STRANDEDNESS: single
137 (D) TOPOLOGY: linear
138 (ii) MOLECULE TYPE: other nucleic acid
139 (A) DESCRIPTION: /desc = "synthetic DNA"
140 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
141 GGTCTAGATG DCA TACGAA AAGC
142
143 (2) INFORMATION FOR SEQ ID NO: 7:
144 (i) SEQUENCE CHARACTERISTICS:
145 (A) LENGTH: 100 base pairs
146 (B) TYPE: nucleic acid
147 (C) STRANDEDNESS: single
148 (D) TOPOLOGY: linear
149 (ii) MOLECULE TYPE: other nucleic acid
150 (A) DESCRIPTION: /desc = "synthetic DNA"
151 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
152 CTCGAGATT AGTGAACT ATAGAAACG GAATTGTGAG CGGATAACAA TTCCAAGCTT
153 CACAGGAAA AGAATATAC CTAAGTACT AGTGAATTCG
154
155 (2) INFORMATION FOR SEQ ID NO: 8:
156 (i) SEQUENCE CHARACTERISTICS:
157 (A) LENGTH: 100 base pairs
158 (B) TYPE: nucleic acid
159 (C) STRANDEDNESS: single
160 (D) TOPOLOGY: linear
161 (ii) MOLECULE TYPE: other nucleic acid
162 (A) DESCRIPTION: /desc = "synthetic DNA"
163 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
164 CGAATTCAT AGTACTTAA GAAATCTCT GTTTCCTGIG AAGCTTGGAA TTGTTATCCG
165 CTCACAATTC CGAATCTAT AGTCTACCT AAATCTCGAG
166
167 (2) INFORMATION FOR SEQ ID NO: 9:
168 (i) SEQUENCE CHARACTERISTICS:
169 (A) LENGTH: 15 base pairs
170 (B) TYPE: nucleic acid
171 (C) STRANDEDNESS: single
172 (D) TOPOLOGY: linear
173 (ii) MOLECULE TYPE: other nucleic acid
174 (A) DESCRIPTION: /desc = "synthetic DNA"
175 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
176 AATCCCATGG AACCTACCA ATCTCT
177
178 (2) INFORMATION FOR SEQ ID NO: 10:
179 (i) SEQUENCE CHARACTERISTICS:
180 (A) LENGTH: 15 base pairs
181 (B) TYPE: nucleic acid
182 (C) STRANDEDNESS: single
183 (D) TOPOLOGY: linear
184 (ii) MOLECULE TYPE: other nucleic acid
185 (A) DESCRIPTION: /desc = "synthetic DNA"

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321      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
322 CCGGCCCATGG TATTTTTGA ACCA-ACCT
323      (2) INFORMATION FOR SEQ ID NO: 11:
324      (i) SEQUENCE CHARACTERISTICS:
325          (A) LENGTH: 16 base pairs
326          (B) TYPE: nucleic acid
327          (C) STRANDEDNESS: single
328          (D) TOPOLOGY: linear
329      (ii) MOLECULE TYPE: other nucleic acid
330          (A) DESCRIPTION: desc = "synthetic DNA"
331      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
332 TAACTTGAAAT CCATGGCTTC TCATCG
333      (2) INFORMATION FOR SEQ ID NO: 12:
334      (i) SEQUENCE CHARACTERISTICS:
335          (A) LENGTH: 16 base pairs
336          (B) TYPE: nucleic acid
337          (C) STRANDEDNESS: single
338          (D) TOPOLOGY: linear
339      (ii) MOLECULE TYPE: other nucleic acid
340          (A) DESCRIPTION: desc = "synthetic DNA"
341      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
342 TACTCAGTAG CCATGGCTTC TCATAGACCG
343      (2) INFORMATION FOR SEQ ID NO: 13:
344      (i) SEQUENCE CHARACTERISTICS:
345          (A) LENGTH: 148 amino acids
346          (B) TYPE: amino acid
347          (C) STRANDEDNESS: single
348          (D) TOPOLOGY: linear
349      (ii) MOLECULE TYPE: peptide
350      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
351 Met Asn Glu Ile Ala Phe Asp Asn Tyr Ser Tyr Ile Pro Lys Leu Lys
352      1           5           10           15
353 Leu Tyr Ser Glu Ile Glu Leu Lys Pro Phe Phe Ile Ser Lys Asn Gly
354      20           25           30
355 Ser Leu Phe Asn Val Asp Ala Ile Asp Phe Leu Arg Lys Leu Glu Ser
356      35           40           45
357 Asn Ser Val Asp Leu Ile Phe Ala Asp Pro Pro Tyr Asn Ile Lys Lys
358      50           55           60
359 Ala Glu Trp Asp Ile Phe Ser Ser Gln Asn Glu Tyr Leu Glu Trp Ser
360      65           70           75           80
361 Lys Glu Trp Ile Met Glu Ala His Arg Val Leu Lys Asp Asn Gly Ser
362      85           90           95
363 Leu Tyr Val Cys Gly Phe Ser Glu Ile Leu Ala Asp Ile Lys Phe Ile
364      100          105          110
365 Thr Ser Lys Tyr Phe His Ser Cys Lys Trp Leu Ile Trp Phe Tyr Arg
366      115          120          125
367 Asn Lys Ala Asn Leu Gly Lys Asp Trp Gly Arg Ser His Glu Ser Ile
368      130          135          140
369 Leu Leu Leu Arg Lys Ser Lys Asn Phe Ile Phe Asn Ile Asp Glu Ala

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